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United States
Department of
Agriculture

FOREST SERVICE

Northern Region

NORTHERN REGION

ANNUAL REGIONAL FIRE REPORT

CALENDAR YEAR 1990

During 1990, the following people retired after a long association with Aviation and Fire Management. We wish them the best:

Tom Griffith	Deerlodge National Forest
Zail Chapman	Lewis & Clark National Forest
Gary Meyer	Clearwater National Forest
Dick Call	Helena National Forest
Gene Imlay	Regional Office
Bob Nicol	Regional Office
Norm Fifield	Beaverhead National Forest
Dick Dudley	Clearwater National Forest
Al Crousser	Idaho Panhandle National Forest
Larry Stone	Idaho Panhandle National Forest
Doug Casey	Idaho Panhandle National Forest
Art Jukkala	Missoula Technology Development Center
George Bissonnette	Kootenai National Forest
Gene Higdem	Idaho Panhandle National Forest
Bob Kellogg	Helena National Forest
Bob Gibson	Gallatin National Forest
Tom Kovalicky	Nez Perce National Forest

In July, Jack R. Hughes, a pioneer Montana mountain pilot with Johnson Flying Service died. Jack was instrumental in the development of aerial firefighting and mountain-rescue techniques.

In August, Norman Maclean, an English and creative writing teacher at the University of Chicago, passed away. Shortly before his death, he finished a book titled "Young Men and Fire." The book is based on the Mann Gulch Fire of 1948 and has not yet been published.

We were saddened by the death of Henry K. (Kenny) Willard, Warehouseman at the Aerial Fire Depot on December 13. Kenny had been an AFD employee since 1977.

John E. (Jack) Nash died December 27 in Missoula. Jack retired in 1969 after 30 years in fire management as a firefighter, cook, smokejumper foreman and squad leader, and equipment specialist.

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Illustrations provided by Gina M. Gahagan, Silvicultural Technician, Gallatin National Forest.

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Missoula, Montana

December 1989

NORTHERN REGION

ANNUAL REGIONAL FIRE REPORT

CALENDAR YEAR 1990

JAMES F. MANN
Director, Aviation and Fire Management

GENERAL

A return to what might be considered as a "normal" fire season occurred in 1990. Although project-sized fires did occur, and the Region experienced another year of drought conditions, activity did not proceed into the crisis stage within the Northern Rockies. Put simply, more than one large impact did not occur at the same time for the entire season.

Faced with extreme drought conditions in the area, fire managers in the Regional Office and on Forests acted to improve initial attack capability. Using "severity funding" requests, R-1 forces were supplemented with five strike teams of engines, more than 30 three-person smokechaser crews, type II and type III helicopters, an air attack fixed wing, and an airtanker. The additional funding also allowed for extended hours and longer coverage periods for R-1 employees and for training AD crews. These actions and the resulting improvement in initial attack capability helped reduce the number of escaped fires.

Type I fires occurred on the following units: Gird Point - Bitterroot National Forest, Sand Dune - Custer National Forest, and Beartooth - Department of State Lands/Helena National Forest. Several type II fires also occurred involving all agencies and locations. One of the more difficult incidents, the Iron Mountain fire (Gallatin National Forest) occurred the first week of October. This fire received significant snowfall, which made control difficult and personal safety a challenge. Three late season events, the Beartooth complex (Department of State Lands/Helena National Forest), Veterans Day fire (Ft. Belknap Agency), and Turkey fire (Lewis and Clark National Forest) totaled over 90,000 acres of federal and private land in November.

The Northern Rockies Coordination Center processed requests resulting in the mobilization of over 8,000 total personnel in 1990. The Region continued to provide support to the national mobilization effort. More than 750 overhead, 155 crews and numerous aircraft were provided. Both Type I teams had out-of-region assignments as well. This year also marked the first summer that the Department of State Lands had full participation in the Coordination Center. This cooperation resulted in increased mobilization efficiencies and easier access to appropriate management groups.

Highlights:

AFM is continuing to work toward realization of our Aerial Fire Depot (AFD) long term site improvement needs through participation in the Missoula Fire and Technology Center site planning efforts with Intermountain Research Station and Missoula Technology and Development Center and the Chief's Office.

The Smokey/American Cowboy program was introduced to Region 1.

The first Forest Service fire agreement with North Dakota was completed and instituted.

We organized and supervised the conduct of an Excess Property Review in North Dakota. The review was 4 days long and included the Regional Property Management Officer and the National Director of the FEPP Program. We inspected approximately 10 rural fire districts having FEPP and we reviewed the State's recordkeeping procedures.

A recycling effort was launched at the AFD and in fire camps. Both efforts have proven effective and will challenge all employees to take a more active role in preserving our environment.

We established a Regional Fire Business Management Coordinator. The AFM Administrative Officer is an alternate coordinator to augment support to the Region.

We held an AFM Workforce Diversity Conference in April. Over 200 R-1 employees attended this conference that was the result of a needs assessment done by R-1 employees at the Denver Workforce Diversity Conference. Objectives were to increase awareness of workforce diversity in Fire and Aviation Management and to facilitate idea sharing and strategies to get the job done. In conjunction with the Workforce Diversity Conference, the Region held the first Regionwide District FMO meeting in our history. The meeting was well received and beneficial to all.

NFMAS was completed on all Forests in the Region.

Troy Kurth and Mike Ramos conducted a functional assistance trip to the Beaverhead and Deerlodge on fire organization. Jim Mann served on the Idaho Panhandle National Forest Integrated Management Review Team lead by Deputy Regional Forester John Hughes.

Jim Mann chaired a national task force to address the national shared forces issue. The task force determined the objectives of the shared forces program, set up a planning process, and devised a strategy for managing the shared forces program applicable to all national wildland firefighting agencies.

After several years of effort, the Region, through the help of the Idaho National Forest, has finally succeeded in getting the north Idaho Forests, industry, and other state and federal agencies to participate in an airshed management group. This group is chartered to regulate its own smoke generating activities in the same manner as the Montana State Airshed Group.

AFM has given support to the Region 1 wilderness program by developing and conducting a Wilderness Prescribed Fire Management course. The course was presented in March.

AFM actively participated in the development of the following prescribed natural fire documents:

Greater Yellowstone Area Interagency Fire Management Planning and Coordination Guide - 6/90

Frank Church-River of No Return Fire Plan Revision - 2/90

Selway Bitterroot prescribed natural fire guide - 6/90

Bob Marshall prescribed natural fire guide - 7/90

Senator Max Baucus did one of his "Free Labor" days at the Aerial Fire Depot. Max participated in smokejumper physical fitness activities, packed a cargo chute, spotted for aerial cargo delivery, and helped in the kitchen.

Mary Very, pilot trainee, was certified as a qualified lead plane pilot.

Jim Mann and Chub Rigglemen are members of the DC-3 turbine conversion Board of Contract Awards. Region 1 will become the owner of one turbine DC-3. With the addition of the WCF DC-3, we will realize a savings over contracting of approximately $140,000 per year.

Regions 1 and 8 made a long term agreement to share a King Air 200 aircraft. Region 1 will have the use of the aircraft from July through October each year. This agreement will save Region 1 approximately $120,000 per year over contract cost.

We developed an agreement to utilize Jerry Jeffries as a shared safety resource with the Bitterroot, MTDC, and RO Engineering and Personnel Management.

The use of prescribed natural fire and modified suppression strategies on the Clearwater National Forest in 1990 resulted in an overall suppression cost savings of approximately $97,050. The Bitterroot National Forest implemented a contain strategy on the Sabe Creek Fire in the Frank Church-River of No Return Wilderness. Estimated savings from the contain strategy decision was approximately $600,000.

The Flathead Interagency Dispatch Center and Northwest Interagency Support Zone Dispatch Center became the home of a new state-of-the-art radio system. The system has the ability to have three individual dispatch personnel "self contained" with their own radio system, data general terminal, and telephone. Depending on the incident and need, base stations, aircraft, an incident, etc., can be solely designated to one operator without interrupting the "business as usual" radio needs of the Forest and/or initial attack dispatch capabilities. The supervisory dispatcher console is separate from the three initial attack and support console areas and has the capability to override any one position as well as monitor the transmissions of the central dispatch operations.

The Kootenai Interagency Dispatch Center participated in a trial program for the State in using the State's IBM computers for resource ordering on State wildfires. With the use of three State computers, which were located at fire camp, Kootenai and Flathead Interagency Dispatch Centers, many resource orders were passed back and forth through that system.

The Kootenai Forest contracted for mopup and patrol of a wildfire after the Incident Management Team turned it back to the District. In order to meet the needs of the Incident, the Forest had to have two contractors working on the same wildfire at the same time. The contract worked exceptionally well and saved the Government over $30,000. The savings resulted because the overhead team and support organization were able to demobilize earlier than normal.

For the first time since 1984, the Nez Perce National Forest did not experience a full scale project fire. This can be attributed to timely rains and rapid initial attack action on the part of each Ranger District. The Forest did manage one small project fire at the request of the Wallowa-Whitman National Forest, Region 6.

During 1990, the Missoula/Seeley Lake Fire Zone was disbanded and the Missoula/Ninemile Fire Zone was created on the Lolo National Forest.

The Lolo IH crew had a camera on them throughout the fire season. A documentary film was made titled "Hotshots, Defenders of Wilderness" which was broadcast on ESPN this fall.

Virginia Vincent, Lolo National Forest, celebrated her 20th year on Stark Mountain Lookout. This is the longest season on record on the Lolo.

The Lewis and Clark, Deerlodge, Beaverhead, Helena National Forests, and Central Zone of Montana Department of State Lands created a step-up dispatching system for project fire resources.

The Lewis and Clark National Forest provided a six-person burning team to assist the Blackfeet Indian Reservation with their prescribed fire program.

Zail Chapman, Lewis and Clark National Forest, retired in 1990 after serving nearly 40 years as the Forest Dispatcher. Zail was instrumental in training Montana Indian Firefighters, and was made an honorary member of the Blackfeet Tribe in 1988.

The Dillon Interagency Dispatch Center (Beaverhead and Deerlodge National Forest's) utilized a 212 helicopter financed with severity dollars from July 15 through September 17. The helicopter was used

extensively in both Regions 1 and 6 for fire suppression activities. The Zone provided the helicopter module for most of its contract period.

Effective November 1, the duties of the Aviation Officer for the Beaverhead and Deerlodge Forests returned to the fire dispatch organization. Kathy Elzig is now the designated Aviation Officer.

During the period August 9-16, the West Yellowstone Interagency Fire Center (Gallatin National Forest) had 17 straight fire missions without a dry run due to no smoke, too windy, or cancellation. This is an accomplishment that points out the coordination that has and is developing among dispatching personnel and the strong communication that exists.

FIRE WEATHER SEASON SUMMARY

We approached the 1990 fire season with some anxiety associated with the general continuation of the long term drought over most of the western states. The year turned out somewhat benign, and was punctuated with swings in the weather pattern from dry to wet a number of times. The most significant burning occurred after the normal end of fire season in November. Strong, dry downslope winds east of the continental divide pushed fires to project size and caused considerable damage around Thanksgiving. Not until the very end of the month did we receive the weather necessary to terminate the 1990 fire season.

December 1989, January and February 1990

The winter season was generally dry and mild. Precipitation was around 75 percent of normal in all but the Flathead Forest/Glacier Park areas and in the eastern third of Montana (figure 1). Mountain snowpack was near normal across most of the region with slightly below normal snowpack observed in southwest Montana. Temperatures through the winter were warmer than normal.

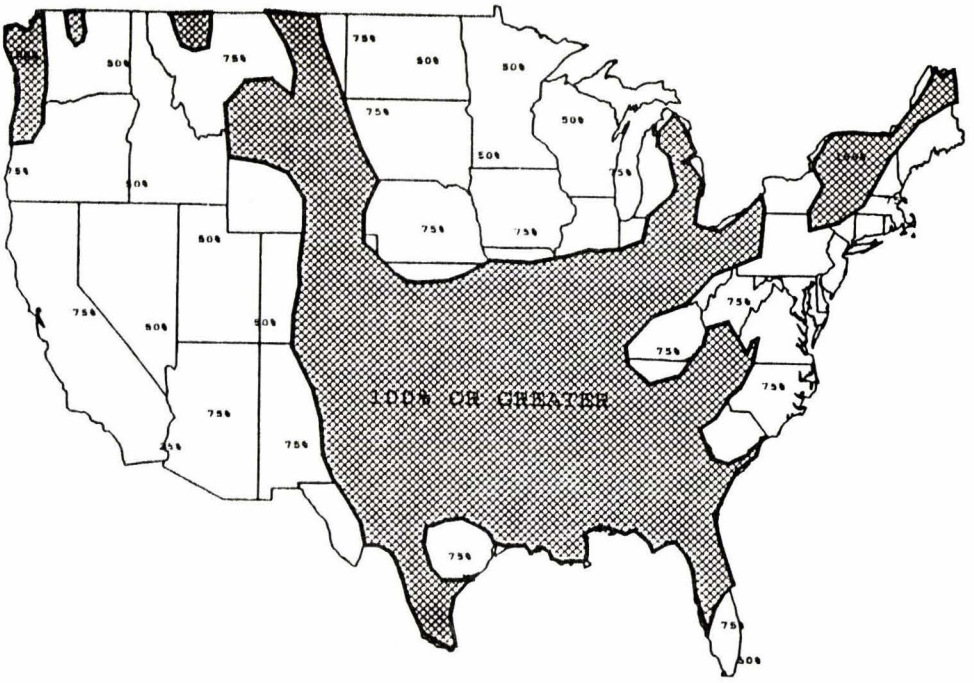


Figure 1.--Percent of normal precipitation (December 1989-February 1990)

March, April, and May

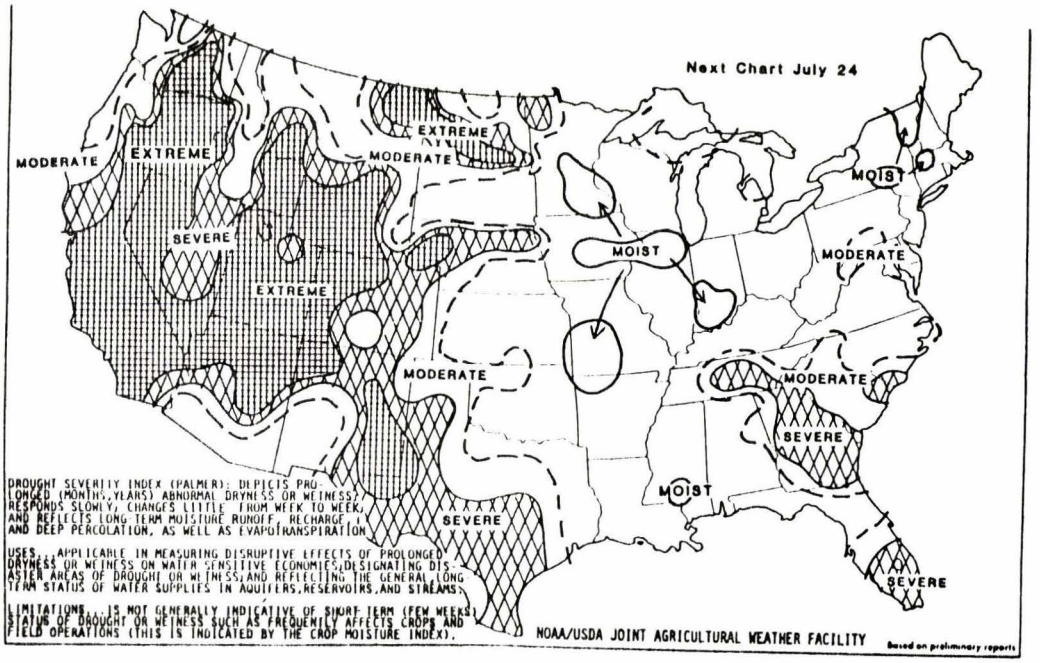
During the early spring months, storm systems began breaking through the persistent ridge of high pressure over the west, bringing significant amounts of moisture to nearly all of the Region. Areas of northern Idaho and western Montana that had precipitation deficits during the winter received normal or above precipitation. Mountain snowpack did not benefit significantly however as much of the precipitation fell as rain. Snowpack over the region on May 1 ranged from 70 percent to 110 percent of normal. Southwestern Forests (Beaver-

head and Gallatin) remained drier than normal through the spring. Temperatures again were a little warmer than normal.

June, July, and August

The moist pattern continued through mid June in the western half of the Region. From mid June through the end of July conditions became progressively warmer and drier. A few thunderstorms outbreaks were noted in early July and led to the first project fire of the season (Gird Point Fire, Bitterroot National Forest, July 15).

Drought Severity (Palmer) indicies for early July indicated only the southwest and northeast corners of Montana with any significant moisture deficits (figure 2). The last week in July brought a significant weather system and precipitation to slow our developing fire season. Another 3 weeks of dry weather in early August provided some buildup, but the last week of August once again brought significant moisture to most of the Region west of the Continental Divide. Temperatures during the summer months reflected the swings in the precipitation patterns. Temperatures were a little above normal during the dry spells, and below normal during the moist periods.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DROUGHT SEVERITY INDEX (PALMER): DEPICTS PRO-
LONGED (MONTHS,YEARS) ABNORMAL DRYNESS OR WETNESS.
RESPONDS SLOWLY, CHANGES LITTLE FROM WEEK TO WEEK,
AND REFLECTS LONG TERM MOISTURE RUNOFF, RECHARGE,
AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED
DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNATING DIS-
ASTER AREAS OF DROUGHT OR WETNESS, AND REFLECTING THE GENERAL, LONG
TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS, AND STREAMS.
LIMITATIONS... IS NOT GENERALLY INDICATIVE OF SHORT TERM (FEW WEEKS)
STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND
FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

Figure 2.--Drought severity (long term Palmer) July 7, 1990

September, October, and November

The fall period was again highlighted with swings in the weather patterns. Warm-dry and cool-moist patterns alternated through the fall west of the Continental Divide. East of the Divide it was much drier, especially the last two weeks in November. The low level wind field was quite strong through most of November and contributed to the strong, gusty, downslope winds along the east slopes of the Rockies. These winds provided a dessicating effect on the dead and dormant vegetation, and were a major factor in driving many of the wildfires that occurred during late November.

FIRE WEATHER ACTIVITIES

Weather support to all land management agencies in northern Idaho and Montana was provided by the Missoula and Billings National Weather Service Offices in accordance with published Fire Weather Operating Plans. Daily forecasts were issued for presuppression planning (including NFDRS inputs) from June through September. Regular Land Management Forecasts were available from Missoula during the remainder of the year.

Spot forecasts were issued for wildfires and prescribed fires from March through November. The Missoula office provided 373 spot forecasts, 79 of the spot forecasts were for wildfires. The Billings office provided 130 spot forecasts, 94 were for wildfires.

On site field support to going wildfires was limited to just two dispatches. Dave Goens of the Missoula Office was dispatched to the Dude Fire on the Tonto National Forest in Arizona (R-3), and was assigned to the fatality investigation team. Mike Richmond and Dave Goens were dispatched to the Gird Point Fire on the Bitterroot National Forest in July for 12 days.

WILDFIRE STATISTICS

Occurrence

Year	Lightning	Person-Caused	Total
1985	921	307	1,228
1986	897	230	1,126
1987	562	563	1,125
1988	998	438	1,436
1989	1,168	284	1,452
5-year average	909	364	1,273
1990	850	357	1,207

Acres Burned

Year	Lightning	Person-Caused	Total
1985	31,714	6,434	38,148
1986	19,649	1,285	21,034
1987	6,833	12,647	19,480
1988	284,490	309,648	594,138
1989	14,495	3,814	18,309
5-year average	71,436	66,766	138,202
1990*	4,472	13,890	18,362

*17,938 acres National Forest land; 424 acres other land inside Forest Service protection. In addition 61,029 acres outside Forest Service protection were burned.

Statistical Causes of Person-Caused Fires

Cause	1985	1986	1987	1988	1989	**5-year average**	1990
Equipment Use	31	19	32	50	22	31	30
Smoking	24	23	61	45	26	36	35
Campfire	58	52	218	121	80	105	138
Debris Burning	84	50	104	71	72	76	50
Railroad	24	27	28	30	5	23	13
Children	9	9	12	9	7	9	19
Arson	18	7	12	9	8	11	4
Miscellaneous	34	43	96	93	64	66	68
Total	282	230	563	418	284	357	357

Wildfire Occurrence by Size Class

	Class							
	A	B	C	D	E	F	G	TOTAL
LIGHTNING								
1990	600	221	16	2	2	1	0	850
5-year average (1985-1989)	622	240	26	6	6	5	4	909
PERSON-CAUSED								
1990	239	88	21	4	1	2	2	357
5-year average (1985-1989)	228	105	18	5	3	3	1	363
TOTAL ALL FIRES								
1990	839	317	37	6	3	3	2	1,207
5-year average (1985-1989)	850	345	44	11	9	8	5	1,272

Class A = .25 acre or less
Class B = .26 acre to 9.9 acres
Class C = 10 to 99.9 acres
Class D = 100 to 299.9 acres
Class E = 300 to 999.9 acres
Class F = 1,000 to 4,999.9 acres
Class G = 5000 or more acres

NUMBER OF FIRES AND ACRES BURNED BY FOREST

	Number of Fires			Acres Burned		
Forest	Lightning	Person-Caused	Total	Lightning	Person-Caused	Total
Beaverhead	27	42	69	22	49	71
Bitterroot	118	18	136	2,692	3,167	5,859
Clearwater	112	8	120	151	7	158
Custer	69	15	84	1,205	253	1,458
Deerlodge	25	24	49	40	70	110
Flathead	32	18	50	9	162	171
Gallatin	26	17	43	72	3,402	3,474
Helena	39	14	53	20	1,224	1,244
Idaho Panhandle	48	49	97	8	143	151
Kootenai	55	59	114	85	209	294
Lewis and Clark	12	20	32	4	4,544	4,548
Lolo	109	48	157	59	110	169
Nez Perce	178	25	203	105	550	655
Total	850	357	1,207	4,472	13,890	18,362

FIRE USE

Management Ignited Prescribed Fire

The Forests were limited in their ability to accomplish the fuel treatment targets assigned in FY90 because of a wetter than normal Spring and drier than normal Fall. In spite of these setbacks the Forests were still able to accomplish approximately 98 percent of both the BD and FFP targets. Listed below are the individual accomplishments of each Region 1 National Forest as reported in the Management Attainment Reporting System.

	BD (05)		FFP (15)	
Forest	Target	MAR	Target	MAR
Beaverhead	1574	1545	591	595
Bitterroot	3146	2253	700	806
Idaho Panhandle	8332	7002	836	751
Clearwater	3479	2733	300	309
Custer	600	355	500	631
Deerlodge	2500	1935	535	774
Flathead	5247	5609	1000	511
Gallatin	620	580	595	595
Helena	480	450	1350	1080
Kootenai	11667	12025	720	798
Lewis & Clark	750	675	800	737
Lolo	4181	3575	2200	2434
Nez Perce	4237	2784	1674	1674
Totals	46813			11801
WO Targets	42500	41521	11900	11695

Prescribed Natural Fire

In 1990 the Northern Region completed the review of three of the larger wildernesses and the Regional Forester(s) reapproved the fire management plans for them. They were the Frank Church-River of No Return Wilderness (303M acres in R-1), Selway-Bitterroot Wilderness (825M acres) and Bob Marshall Wilderness Complex (1484M acres). The review process incorporated new FSM 5140 direction into the plans and encouraged stronger participation by wilderness managers into the planning and execution of the program. The resulting revised plans are better understood by other functional disciplines within the agency and they are supported by the public.

In 1990, all three areas experienced prescribed natural fires. Following is a summary of that prescribed natural fire activity.

1990 PRESCRIBED NATURAL FIRE PROGRAM SUMMARY

Wilderness (Forest)	Fire Name	Size (Acres)
Selway (Bitterroot)	Nick Creek	Spot
	Crooked Creek	.5
	Spot Mountain	7
	Paloma Creek	.25
	Como Peak	Spot
	Total	**8**
Selway (Clearwater)	Storm Pass	Spot
	Wag Meadows	2
	Maud Creek	65
	Pedro Creek	Spot
	Chain Meadows	1.5
	Wind Lakes	95
	South Fork Storm Creek	Spot
	Hidden Creek	5
	Total	**169**
Selway (Nez Perce)	Wye	Spot
	Total	**1**
FC-RONR (Bitterroot)	Eagle Creek	Spot
	Lantz Bar	470
	Total	**470**
FC-RONR (Nez Perce)	Bleak Creek	Spot
	Total	**<1**
Bob Marshall (Flathead)	Trap Mountain	.25
	Total	**<1**

Total Prescribed Natural Fires 18

Candidate Prescribed Natural Fires 6

- Wylies (Selway, Nez Perce)
- 62 Creek (Selway, Nez Perce)
- Parsons Lake (Selway, Nez Perce)
- North Peak (Selway, Nez Perce)
- Double (Selway, Nez Perce)
- Birthday (Selway, Nez Perce)

Total Acres Burned (Prescribed) 648

(Wildfire) <1

Probable cost under 1000 AM Policy (18 fires X $2600/fire) $46,800

Probable cost under Revised Policy is expected to approximate Rx Fire Cost

Actual Project Cost as Rx Fire $9,900 ($15.28/acre)

Funding by Forest:

Forest	Project $	Acres	FFF $	Acres
Bitterroot National Forest	6500	478		
Clearwater National Forest	1900	169		
Flathead National Forest	1000	<1		
Nez Perce National Forest	500	1		<1
Totals	9900	648		<1

COOPERATIVE FIRE AND PREVENTION

The first interagency fire agreement between the Forest Service and the State of North Dakota was signed prior to the fire season. It was the culmination of 18 months negotiations between the two parties and sets the foundation for mutual assistance between them. The 4th Block Exchange in the 10-year program to achieve a protection balance with Montana was implemented on July 1. It transferred almost 623,000 acres of fire protection responsibility from the Forest Service to the State. There is only approximately 60,000 acres of imbalance left out of the 2-1/2 million that existed in 1982. The last Block Exchange will be implemented in 1992, and when this occurs, the 10-year program to zero out the imbalance will be complete.

In conjunction with the implementation of the Block 4 exchange, a new interagency center between the BLM, State of Montana and Forest Service began operating in Dillon. It is an initial attack operation and is a sub-base of the interagency facility in Helena whom it depends on for initial attack back up. With the advent of the Dillon base, 4/5ths of Montana is now under the jurisdiction of an interagency operation.

To cope with the change brought about by interagency operations and to provide consolidated leadership and direction, the State of Montana eliminated its own Coordination Center and moved its operation and personnel into the Regional Coordination Center at the Aerial Fire Depot. With the integration of dispatch and fire support operations at the State and Regional level, the attainment of a 5-year goal for both agencies has been reached.

Other interagency operations of note included a State of Idaho warehouse in Coeur d' Alene that supplied fire operations on the Idaho Panhandle National Forest; and jointly financed helicopters with the State of Idaho in Coeur d' Alene and the State of Montana in Kalispell.

The Northern Rockies Coordinating Group continued to serve as the focus for interagency leadership and the resolution of interagency problems. Tim Murphy from the State of Montana was the Chairman for 1990, and the year saw furthur consolidation and entrenchment of the procedures for using and paying local forces that was developed by Montana and adopted by NRCG in 1989. The group refined its typing for engines to more closely match what is available from local forces and submitted this proposal to NASF for consideration for adoption nationally.

The Region expanded its prevention program in 1990 and strengthened its efforts in the Smokey Sports and Smokey and the American Cowboy programs. Twenty four people from five agencies attended the Region's initial Smokey and the American Cowboy training session in July and used their new knowledge to put on rodeo events in Great Falls, Helena, Coeur d' Alene, Billings and Lewiston, Idaho. Smokey was also highlighted through the efforts of local forests in professional baseball games in Spokane, Helena and Great Falls.

Smokey continued his involvement with the NCAA and local universities to produce the Region's annual Smokey and the Athletes poster featuring stars from the University of North Dakota, University of Montana, University of Idaho and Montana State University. In addition, the Clearwater National Forest had Smokey Nights at University of Idaho men's and women's basketball games and a football game. The Northern Idaho Fire Prevention Cooperative, formed 3 years ago with the impetus from the Idaho Panhandle National Forest, and with membership from the Forest Service, the State of Idaho and local fire departments, continued its prevention efforts by producing a prevention curriculum for grade schools and a series of television public service announcements.

FIRE PLANNING AND PROGRAMS

During 1990, the Forests completed a reanalysis, utilizing NFMAS as the foundation for developing the most efficient fire management. The Region participated in the development of the MAR fire target definition and implementation on a nation wide basis. The Region also updated the National NFMAS allocation model and data base for the Washington Office.

A prototype decision support system for fire suppression was developed in 1990, with additional work and alpha testing planned for 1991.

Using NFMAS as a base, each Forest laid the groundwork to develop a priority for funding fire management forces in FY 1991. Several Forests were able to utilize NFMAS to develop most efficient preplanned initial action response plans that will attain objectives for fire management defined in Forest Plans. This work will become an important driver for the Regional decision support system in the future.

The Region and Forests have incorporated the NFMAS economic analysis into the decision making process used to determine the most efficient 10-year plan and distribution of FFP funds within Region 1. For the first time in our memory, the "system" allowed the active participation of Forest fire management personnel in all phases of the program development and budget allocation process for the coming fiscal year, with the development of a regional funding strategy for the fire and aviation management program.

This was an important year for systems in our Region. We completed the Automated Resource Ordering System (AROS) prototype for the Washington Office. This interagency program will be implemented on several Forests and throughout R-1 in 1991. In addition, the Region is participating in the National Automated Fire Cache System development at BIFC.

The Systems support section was formed this year with the assumption of systems support responsibility from the Washington Office for AFFIRMS, BEHAVE, FIRE FAMILY, NATIONAL FIRE WEATHER DATA LIBRARY, FCFAST, NFDRS, PROTO TYPE-WHIMS, and CIS. The Section will assume support for WIMS in 1991, replacing AFFIRMS.

The Region installed and tested real time automated weather stations (AWS) on the Lolo National Forest in 1990. The stations are accessed via Forest Radio Network, using PC IBM computers to retrieve and display site specific weather observations. The data is displayed in the NFDRS format and will be inserted directly into the Automated BEHAVE program to produce fire size and rates of spread predictions for the forest dispatcher. All Forests will be equipped with the new base stations by 1991, with at least one radio accessible AWS per climatic zone by 1992.

The Lolo Project (Lolo National Forest) based the 1990 NFMAS analysis upon Land Suitability Inventory (LSI) habitat groups correlated to fuel models. This placed the analysis upon the same data base as used for the Forest Plan. This model is being documented for extension to other forests in 1991. The project has been extended to incorporate a NFMAS fuel analysis model and a fire prevention model, with Region-wide applications planned for 1993.

The Bitterroot Project (Bitterroot National Forest) prototyped the development of a hazard and risk mitigation model in the wildland urban-rural interface during 1990. The model includes inventory of boundary fuel (hazard) and property (risk) along the Forest interface across the Bitterroot Front Range. Procedures for working with local government, fire department and property owners to implement fuel reduction and risk reduction measures are being tested in 1991. The program will be available to other Forests in 1991.

NORTHERN TRAINING CENTER

In 1990 the training program concentrated on seminars, course presentations, computer equipment updates, and interagency and national involvement.

Seminars were conducted to increase the knowledge of currently qualified Division Group Supervisors and Operations Section Chiefs. Concerns in the fire suppression operations function were addressed which resulted in noted improvements during the 1990 fire season.

Twenty nine courses were presented with 957 students attending these courses. Over 1/3 of the students were from other Northern Rockies Coordinating Group agencies and a few were from outside the area.

Another MacIntosh computer was purchased to increase the Northern Training Center's graphics capabilities, scan materials, and interface with the Data General. This added technology was acquired to save time and dollars and to produce more professional products.

The training program was heavily involved both in interagency and national training. Twenty-seven of the 29 courses presented by the Northern Training Center were interagency and an Air Operations Branch Director Course was interagency and interregional. A Prescribed Natural Fire Course, presented for the first time in the nation at the Training Center, became the foundation for a national course. The Training Center completed a National Fire Suppression Tactics Course and began work on a National Initial Attack Retardant Use Course.

AVIATION MANAGEMENT

Mary Verry, Region 1 trainee, became qualified as a lead plane pilot during the 1990 fire season. Mary flew over 30 fires in Regions 3, 6, and in training. After being qualified she flew several late season fires in Region 1.

The Aviation Management group experienced a fairly active fire year beginning with deployments to Regions 3 and 8 early in the season. We were kept busy with midseason activity in R-1, R-4 and a particularly active mid-August period in R-6.

R-1 provided maintenance support for aircraft inspection in R-9, the state of Minnesota Aviation/Fire program, and the National Airtanker program prior to the fire season.

R-1 has consolidated its hangar facilities into a single hangar at Missoula. We have maintained two separate hangars for the last 10 years. The new hangar has sufficient space for our existing needs and should serve our needs for the immediate future.

AIRCRAFT ACCIDENT/INCIDENT REPORT SUMMARY

Incident Number	Date	Aircraft	Summary
R-1-01	10/26/89	Swearingen SW-4	Flight time exceeded.
R-1-02	10/19/89	Bell 206B III	Crack on right skid tube.
R-1-03	11/8/89	Hughes 500C	Main rotor blade strike while repositioning on heliport
R-1-04	12/15/89	Baron 58P	No flight plan initiated--Boise to Missoula
R-1-05	11/16/89	Hiller SL-4	A "job contract" helicopter fertilizer project was being administered without involvement of Forest dispatch or aviation personnel.
R-1-06	4/5/90	Bell 206B III	Miswired plug for helitorch operation
R-1-07	5/5/90	Bell 206B III	Premo Mark III jam with fire
R-1-08	6/29/90	DC-4	Fuel leaks
R-1-09	7/7/90	C-340	Engine failure
R-1-10	6/28/90	King Air 90	Overflight by 4.8 hours
R-1-11	7-10-90	Bell 206B III	Tail rotor chip light
R-1-12	7/17/90	PB4Y-2	Dropped retardant on ramp
R-1-13	7/20/90	Sikorsky S-58T	No simultaneous monitoring of guard frequency
R-1-14	7/19/90	Piper TA	Uncarded aircraft
R-1-15	7/21/90	Bell 212	Pilot allowed sling load to drag through trees
R-1-16	7/24/90	DHC-6-200	Precautionary engine shutdown (low pressure light)
R-1-17	7/14/90	P2V-7	Excessive mag drop, no. 1 engine, left mag
R-1-18	7/16/90	P2V-7	Left jet engine would not start
R-1-19	7/18/90	P2V-7	Stripped gears in cowl flap actuator drive
R-1-20	7/21/90	Cherokee	Airspace violation
R-1-21	7/26/90	C-340	Failed alternator on right engine
R-1-22	7/21/90	Boeing-Vertol 107	Conflict between aircraft and crews walking through dip site

Incident Number	Date	Aircraft	Summary
R-1-23	7/27/90	C-54	Broken nose case studs
R-1-24	7/24/90	C-210	Magneto failure on engine run-up
R-1-25	7/24/90	Bell 204B Super	Helicopter landed on rock--dented right skid
R-1-26	8/10/90	King Air 200	Main landing gear failure
R-1-27	8/8/90	C-206	Electrical short in instrument panel
R-1-28	8/8/90	C-182	Stuck manifold pressure gauge
R-1-29	8/12/90	UH-1H	Improper load calc--overweight
R-1-30	8/13/90	Hughes 500D	Improper fuel cap replacement
R-1-31	8/15/90	Bell 206B III	Inadvertent cargo drop from longline
R-1-32	9/14/90	Bell 206B III	Partial 9600 channel radio failure
R-1-33	9/17/90	P2V	Illumination of nose case chip detector, No. 2 engine
R-1-34	9/17/90	Bell 206B III	FS person drove vehicle under longline

RETARDANT USE

Retardant Base	Gallons of Retardant Dropped
Missoula	257,600
Coeur d'Alene	127,075
Kalispell	108,100
Grangeville	84,700
West Yellowstone	98,100
BLM	
Billings	56,000
Lewistown	0
Miles City	6,000
Greybull	6,000
Total	744,075

ENGINE PROGRAM

During 1990 the Engine Program undertook 42 major projects, exceeding all previous production years. Of those projects 19 were R-1 Forest Service, 15 were BIA Billings Area, four were BIA out of region, three were R-2 Black Hills, and one was R-8 Florida. Of the total 19 were new construction, four were retrofits from older models, 10 units were completely refurbished, seven required major repairs or replacement of components, and two were compressed air foam projects.

In 1990 a foam metering device for installation on the standard Model 52 was selected. This device met the criteria for accuracy of foam mix ratios, simplicity, and cost effectiveness. Over 26 have been installed.

A program to refurbish 5-year-old engines has been put in place for the BIA in North and South Dakota. The work is done at the Cheyenne River Agency with assistance from the Engine Program. Interagency work is accepted. This program reduces the distances user agencies must travel to a major repair facility.

At the request of the Engine Program Manager, the Fleet Management Group has developed standard vehicle weights and bed sizes for the various gallonage Model 52 units. This will facilitate the proper ordering of vehicles with the correct axle and GVW ratings

Four day training sessions in water handling and fire engine use were conducted for the Nez Perce, Idaho Panhandle, and Beaverhead/Deerlodge Forests. One and 2-day courses were offered on the Gallatin, Kootenai, Clearwater, Lewis and Clark, and Lolo Forests, and the Flathead and Blackfeet Agencies.

Other areas of involvement by Engine Program personnel include supplying a mechanic and service vehicle to numerous incidents and agencies, filling the position of water-handling specialist, providing technical assistance on water handling problems on controlled burns, and continued involvement with the BIA identifying water related equipment needs.

NEW CONSTRUCTION		
Fernan RD	Idaho Panhandle NF	300 gal.
Avery RD	Idaho Panhandle NF	1000 gal.
Powell RD	Clearwater NF	300 gal.
Selway RD	Nez Perce NF	300 gal.
Spearfish RD	Black Hills NF	200 gal.
Bearlodge RD	Black Hills NF	200 gal.
Pactola RD	Black Hills NF	200 gal.
Wakulla RD	Apalachicola NF	200 gal.
Cheyenne River Agency	Aberdeen Area	200 gal.
Cheyenne River Agency	Aberdeen Area	200 gal.
Ft. Belknap Agency	Billings Area	200 gal.
Crow Agency	Billings Area	600 gal.
Rosebud Agency	Aberdeen Area	750 gal.
Northern Cheyenne Agency	Billings Area	750 gal.
Ft. Peck Agency	Billings Area	600 gal.
Warm Springs Agency	Portland Area	300 gal.
Hoopa Agency	Sacramento Area	500 gal.
Hoopa Agency	Sacramento Area	750 gal.
Jicarilla Apache Agency	Albuquerque Area	300 gal.
RETROFITS:		
Bonners Ferry RD	Idaho Panhandle NF	200 gal.
Bonners Ferry RD	Idaho Panhandle NF	750 gal.
Plains RD	Lolo NF	300 gal.
Rocky Mt. RD	Lewis & Clark NF	200 gal.
REFURBISHMENTS:		
Hebgen Lake RD	Gallatin NF	200 gal.
Livingston RD	Gallatin NF	200 gal.
Sheyenne Grasslands RD	Custer NF	200 gal.
Crow Creek Agency	Aberdeen Area	300 gal.
Pine Ridge Agency	Aberdeen Area	300 gal.
Turtle Mt. Agency	Aberdeen Area	300 gal.
Pine Ridge Agency	Aberdeen Area	300 gal.
Ft. Peck Agency	Billings Area	200 gal.
Northern Cheyenne Agency	Billings Area	200 gal.
Northern Cheyenne Agency	Billings Area	200 gal.
CAFS UNITS:		
Tally Lake RD	Flathead NF	
Blackfeet Agency	Billings Area	

MAJOR REPAIRS, REPLACEMENTS:

Ninemile RD	Lolo National Forest	750 gal.
Missoula RD	Lolo National Forest	200 gal.
Missoula RD	Lolo National Forest	1000 gal.
Canoe Gulch RD	Kootenai National Forest	200 gal.
Madison RD	Beaverhead National Forest	200 gal.
Tally Lake RD	Flathead National Forest	200 gal.

FIRELINE EXPLOSIVE REPORT
MISSOULA SMOKEJUMPERS

A total of 16,492 feet of fireline explosives were used by the Missoula Smokejumper base in 1990.

Date	Fire Name	Location	Blaster	Amount
7/16-17	Sheepherder Fire	Kootenai	Curdy	1584'
7/1823	Gird Point Fire	Bitterroot	Heare	4452'
8/8	Cub Point Fire	Nez Perce	Beck	2510'
8/8-9	Bear Creek Fire	Bitterroot	Smith	5096'
9/24-25	Upper Truman Eagle Fire	Flathead	Custer	2770'

Incident	Ireco 6000	Eti Toves	Atlas RXL-679	Austin Pyroline*	Ensign-Bickford 7 strand
Sheepherder	774'		810'		
Gird Point	2751'				1700'
Cub Point		880'	1710'		
Bear Creek	946'	1360'	2790'		
Upper Truman Eagle	1720	960'	90'		
Total	6192'	3200'	5400'		1700'

*The Austin Pyroline was not used in the field this summer due to the restriction imposed by MTDC that prohibited slingloading any product that contained PETN. (The det cord in the Austin product contains PETN.)

We used 90 cases of explosives in R-8 (Francis Marion National Forest); 160 cases on three Yellowstone National Park fires; 54 cases on the Clearwater National Forest; 85 cases on two Gallatin National Forest fires; 116 cases on the Idaho Panhandle National Forest; 72 cases on the Kootenai National Forest; and 104 cases of 4-5 year old products on prescribed burns.

INTERAGENCY HOTSHOT CREW SUMMARY

IHC	Employment Dates	Days on Fire	Number of Fires
Bitterroot	6/4-10/19/90	77	18
Flathead	6/5-9/15/90	60	11
Helena	6/5-9/28/90	83	28
Lolo	6/11-9/22/90	67	11
St. Joe	6/4-10/20/90	66	12
Chief Mountain		90	15

Bitterroot--The Bitterroot and Lolo IHC's strike teamed together for quite a few fires this season. Once again the Bitterroot IHC continued the practice of having several Job Corps enrollees from Trapper Creek JCC train with them at the beginning of the season. At least two of the Job Corps trainees were taken on every fire assignment and performed well. The Bitterroot IHC also participated in the carbon monoxide field monitoring project.

Flathead--The season started very early with a dispatch to Region 8 (Francis Marion National Forest) in mid-February doing Hurricane Hugo rehab and fuels projects while being on initial attack standby. The crew was involved in the Dude Fire on the Tonto National Forest. Due to extreme behavior they were forced into a black safety zone with five other hotshot crews. The unfortunate fatalities of six Type II crewpersons will be a hard one to forget from this blowup situation.

Helena--Several members of the Helena IHC joined with the Flathead IHC for an early season dispatch to R-8 for Hurricane Hugo rehab work. The Helena IHC made substantial career development and diversity progress with the hiring of three career positions on the crew.

Lolo--The Lolo IHC had 10 new members this year, including new crew overhead and one detailer from the Kootenai National Forest. Steve Karkanen filled the vacant Superintendent position in March and Marshall Brown filled the foreman position. Tim Brockman, producer of ESPN's America's Wilderness, spent 2 weeks interviewing crewmembers and filming the crew in action during training and on fire assignment in Yosemite and on the Ute fires. The show was broadcast nationwide. The crew was involved in a carbon monoxide field monitoring project that is gathering data to be used for determining the amount of CO wildland firefighters are exposed to on fire assignments.

St. Joe--Clyde Johnson was hired as the crew foreman. The crew consists of four women, six minorities, and 10 white males.

OTHER CREWS

The Bitterroot National Forest trained and used four Trapper Creek Job Corps line crews. These crews received 24 dispatches in 1990. They also trained five 10-person camp crews that received five dispatches.

The Nez Perce National Forest dispatched six Native American crews from Lapwai.

The Lolo National Forest dispatched 34 Ronan MIF Crews and three NASA crews.

The Custer (BDC) dispatched 121 MIFF crews.

Dillon Interagency Dispatch Center dispatched six Anaconda Job Corps suppression crews, three Anaconda Job Corps camp crews, and two Native American suppression crews.

The Lewis and Clark National Forest dispatched 89 MIF crews.

Idaho Panhandle dispatched seven IIF crews, three camp crews, and one engine crew.

NORTHERN ROCKY MOUNTAIN AREA OVERHEAD TEAM DISPATCHES

Type I Dispatches

Team	Incident	Location
Meuchel	Dude	Region 3, Tonto National Forest
Meuchel	Sand Dune	Custer National Forest
Meuchel	Gird Point	Bitterroot National Forest
Hodge	Snowshoe Complex	Region 6, Malheur National Forest
Meuchel	Beartooth Complex	Helena National Forest/State of Montana

Type II Dispatches

West Zone		
Kechter	Flat Creek	Idaho Panhandle National Forest
Stone	Kirkwood	Nez Perce National Forest (Region 6, Wallowa-Whitman)
Central Zone		
McKee	Gird Point	Bitterroot National Forest
McKee	Calf Creek	Utah BLM
McKee	Miller Creek	Kootenai National Forest
McKee	Gem Peak	Kootenai National Forest
Gauger	Flagstaff Mob Center	Region 3, USFS
Gauger	Gird Point	Bitterroot National Forest
Gauger	Maki	Region 4, Bridger-Teton National Forest
Gauger	Upper Truman Eagle	Flathead National Forest
Suenram	Gold Creek	Lolo National Forest
Suenram	Mantrap	Kootenai National Forest

East Zone		
Alt	Sand Dune	Custer National Forest
Kutt	Picnic	Deerlodge National Forest
Gregory	Joy Complex	Northern Cheyenne Agency
Kutt	Knowlton	Miles City District, BLM
Kutt	Ridge	Montana Department of State Lands
Kutt	Iron Mountain	Gallatin National Forest
Alt	Turkey	Lewis & Clark National Forest

FIRE CACHE SUMMARY

During the period January 1 to October 1, 1990, the Region 1 Fire Cache shipped 1,724,680 pounds of equipment to fill presuppression, replacement, and actual incident orders. Many of these orders were dispatched in support of incidents in other Regions. Total volume of these orders calculated to 202,905.81 cubic feet for a total issued cost of $11,501.906, not counting credit on returned items to be refurbished or reshelved.

Shipments to incidents above computed to 1,279,656 pounds or almost 640 tons. Total volume was 147,645.94 cubic feet for a total cost of $9,136,822.

SMOKEJUMPER ACTIVITIES

The 1990 fire season for R-1 smokejumpers started on February 1 with dispatches to R-8 South Carolina. The season ended early this year with the last fire dispatch out of West Yellowstone the first half of October.

Region 1 smokejumper bases sent booster crews to Regions 3, 4, 5, 6 and BLM Alaska. The Region 3 Silver City base was operational once again this year with the crew being a combined effort of Regions 1, 4, and 6. In addition to Silver City, a 20 jumper spike base was set up in Springerville Arizona and one in Santa Fe New Mexico for a shorter length of time. Booster crews from Regions 4, 5, and 6 helped the efforts in the Southwest. Jumpers made 277 fire jumps to 57 fires and 11 ground action for a total of 1,214 person days on fires.

Although Region 1's fire activity was not as steady as the past few years, the smokejumpers still stayed fairly busy in other regions supporting their fire fighting efforts.

The following reports action by Region 1 Smokejumper bases to Northern Region forest only.

Item	Home Region
1. Number of bases	3
2. Number of jumpers	109
3. Number of fires attacked or jumped	
A. Initial attack	158
B. Follow-up	86
C. Total	234

Item	Home Region
4. Number of jumps to fires	634
5. Person days on fires	3816

AFFIRMATIVE ACTION

We had 53 individuals attend our Career Day. This, coupled with over 130 personal contacts, enabled 20 women to apply for smokejumping positions. Nine job offers were made to women (three of which were Hispanic), three job offers to Hispanic males, and five offers to Native Americans.

Native American recruitment involved site visits to two reservations in New Mexico addressing 40 people, seven reservations in Montana addressing 175 people, two reservations in North Dakota addressing 50 people, and six reservations in South Dakota addressing 150 people. We also continue our participation in events such as the InterTribal Youth Practicum.

We placed five women and minority smokejumpers on hotshot crews when they did not successfully complete rookie training.

We developed a Physical Fitness Guide for use by women to assist in their physical training program. The intent is to provide more information on what is expected and thus improve our rookie smokejumper success rate.

We participated in the following youth programs:

Human Resources Development Council - Employ two females and one male in kitchen, dorm, and grounds maintenance jobs. They learn job ethics and skills they can use in the future. We also will involve these young persons in broader FS career opportunities by exposing them to a District.

Job Corp - We historically provide kitchen and dorm management skills to approximately 100 youth per year. These youth are approximately 40 percent female and 50 percent minority.

Stay-In-School - We currently employ two young women (one a minority) in personnel and budget/ finance positions while attending college.

We have developed a Women In Fire Network to facilitate career development of women into fire and aviation positions. This network will provide mentoring, idea sharing, facilitate detail searches, and share concerns.

We continued our commitment to career counseling in AFM by sponsoring a formal career/goal setting training course in FY90. Approximately 15 employees from several different units benefited from this course. We have also established details in non-traditional careers from a number of our employees and re-emphasized supervisory skills with A&FM employees.

AIRCRAFT USE REPORT

WORKSHEET A DATE OF RUN:111990
INCLUSIVE DATES:10/01/89-09/30/90 SUPPLYING UNIT:REGION 1 USER UNIT:ALL

	HOURS FLOWN			
	FS-OWNED	CONTRACT	TOTAL	HELICOPTER
AVIATION MANAGEMENT ACTIVITIES				
1. AIRCRAFT, PILOT, UNIT INSPECTIONS	67.70	23.40	91.10	.60
2. PILOT TRAINING AND PROFICIENCY	134.90	1.00	135.90	6.90
3. AIRCRAFT MAINTENANCE-TEST FLIGHT	9.20	2.90	12.10	.00
4. OTHER	.70	.80	1.50	.00
TOTAL	212.50	28.10	240.60	7.50
TOTAL HOURS 248.10				
FIRE SUPPRESSION ACTIVITIES				
5. PERSONNEL TRANSPORT	35.80	1446.10	1481.90	475.00
6. RECONNAISSANCE	9.30	338.80	348.10	176.20
7. DETECTION	12.00	1121.50	1133.50	8.60
8. AIR ATTACK	3.00	177.00	180.00	2.60
9. LEAD PLANE	293.30	51.00	344.30	.00
10. RETARDANT/WATER DELIVERY	.00	368.24	368.24	286.00
11. SMOKEJUMPER TRANSPORT	19.80	496.60	516.40	.00
12. HELITACK	.00	.00	.00	134.00
13. RAPPELLER TRANSPORT	.00	.00	.00	.00
14. EQUIPMENT/SUPPLY TRANSPORT	17.10	126.95	144.05	334.70
15. INFRARED PHOTOGRAPHY	.00	.00	.00	16.40
16. AERIAL IGNITION	.00	.00	.00	19.20
17. OTHER	.00	1.65	1.65	11.90
TOTAL	390.30	4127.84	4518.14	1464.60
TOTAL HOURS 5982.74				
OTHER ACTIVITIES				
18. PERSONNEL TRANSPORT	212.70	338.70	551.40	199.60
19. SURVEY/OBSERVATION	14.90	556.50	571.40	62.90
20. FERRY	10.40	74.57	84.97	40.30
21. ANIMAL/WILDLIFE COUNT	.00	121.30	121.30	.00
22. SEARCH AND RESCUE	1.90	.00	1.90	.80
23. LAW ENFORCEMENT/INVESTIGATIONS	.00	5.00	5.00	2.60
24. RESEARCH	.00	.00	.00	.00
25. AIR QUALITY MONITORING	.00	.00	.00	.00
26. FIRE PREVENTION	.80	12.10	12.90	.00
27. PRESCRIBED BURNING	.00	.00	.00	21.30
28. CARGO TRANSPORT HAZARDOUS MATERIALS	.00	2.50	2.50	1.40
29. CARGO TRANSPORT	.00	11.72	11.72	84.90
30. AERIAL PHOTOGRAPHY	2.90	4.20	7.10	13.80
31. INFRARED PHOTOGRAPHY	.00	.00	.00	4.50
32. AERIAL IGNITION	.00	.00	.00	132.50
33. ACCIDENT INVESTIGATIONS	.00	.00	.00	.00
34. OTHER	3.50	1.10	4.60	96.30
TOTAL	247.10	1127.69	1374.79	660.90
TOTAL HOURS 2035.69				
COLUMN TOTAL	849.90	5283.63	6133.53	2133.00
GRAND TOTAL HOURS 8266.53				

1. PARACARGO	64,615
2. AIR FREIGHT	407,576
3. SLING	598,093
4. HELITORCH	36,885
5. RETARDANT	858,413
6. WATER	194,882

NUMBER OF PASSENGERS TRANSPORTED

	FIXED-WING	HELICOPTER
FIRE	6096	3091
OTHER	2104	1301

WORKSHEET B DATE OF RUN:111990

INCLUSIVE DATES:10/01/90-09/30/90 SUPPLYING UNIT:REGION 1 USER UNIT:ALL

	HOURS FLOWN			
	FS-OWNED	CONTRACT	TOTAL	HELICOPTER
OTHER ACTIVITIES				
1. AVIATION AND FIRE MANAGEMENT	115.50	183.59	299.09	268.90
2. ADMINISTRATIVE MANAGEMENT	2.10	91.70	93.80	22.60
3. ADMINISTRATIVE SERVICES	.00	2.90	2.90	6.30
4. CIVIL RIGHTS	.00	.00	.00	.00
5. COMPUTER SERVICES	.00	1.30	1.30	3.00
6. ENGINEERING	11.70	21.90	33.60	26.80
7. EXPERIMENT STATIONS	4.50	.00	4.50	.00
8. FISCAL AND ACCOUNTING MANAGEMENT	.00	.00	.00	.00
9. FOREST PEST MANAGEMENT	.00	299.60	299.60	13.60
10. HUMAN RESOURCE PROGRAMS	.00	3.50	3.50	.00
11. LANDS	7.80	8.70	16.50	.00
12. LAND MANAGEMENT PLANNING	.00	5.30	5.30	10.50
13. LAW ENFORCEMENT	.00	10.70	10.70	4.20
14. MINERALS AND GEOLOGY	17.90	.00	17.90	.00
15. OFFICE OF GENERAL COUNSEL	.00	.00	.00	1.00
16. OFFICE OF INFORMATION	.00	8.80	8.80	.00
17. PERSONNEL MANAGEMENT	4.10	5.10	9.20	.00
18. PROGRAM PLANNING AND BUDGET	2.30	4.90	7.20	.00
19. RANGE MANAGEMENT	2.70	9.40	12.10	1.10
20. RECREATION MANAGEMENT	12.60	45.80	58.40	61.50
21. REGIONAL FORESTER/FOREST SUPERVISOR	53.50	80.90	134.40	2.20
22. STATE AND PRIVATE FORESTRY	.00	.00	.00	.00
23. TIMBER MANAGEMENT	2.90	49.70	52.60	99.60
24. WATERSHED AND AIR MANAGEMENT	3.00	7.80	10.80	33.10
25. WILDLIFE MANAGEMENT	6.50	152.50	159.00	59.40
26. OTHER AGENCIES AND COOPERATORS	.00	122.10	122.10	22.80
27. OTHER	.00	11.50	11.50	24.30
TOTAL	247.10	1127.69	1374.79	660.90
TOTAL HOURS 2035.69				

NUMBER OF PASSENGERS TRANSPORTED

Fixed wing - 1890
Helicopter - 1298

WORKSHEET C DATE OF RUN: 11/19/90

INCLUSIVE DATES:10/01/89-09/30/90 SUPPLYING UNIT:REGION 1

USER UNIT	AVIATION ACTIVITIES	FIXED WING FIRE ACTIVITIES	OTHER ACTIVITIES	AVIATION ACTIVITIES	HELICOPTER FIRE ACTIVITIES	OTHER ACTIVITIES
AZ	.00	.00	.00	00	4.80	.00
BIA	.00	127.06	.00	.00	5.50	.00
BLM	.00	154.37	6.28	.00	11.30	1.60
CA	.00	28.32	.00	.00	.00	.00
ID	.00	21.59	178.60	.00	2.70	5.60
MT	.00	69.17	122.63	.00	26.30	17.80
NM	.00	4.50	.00	.00	.00	.00
NPS	6.20	129.55	.00	.00	69.10	2.80
OAS	11.10	.00	.00	.00	.00	.00
OR	.00	19.63	2.78	.00	.00	.00
OTHR	.00	.00	.00	.00	00	1.80
UT	.00	4.90	00	.00	.00	.00
WA	.00	13.22	.90	.00	.00	.00
0102	.00	198.90	6.50	.00	.00	.00
0103	5.80	440.99	9.18	.00	295.70	2.50
0104	1.60	353.69	63.80	.00	93.80	168.20
0105	.00	230.60	24.00	.00	99.80	85.00
0108	2.80	166.73	19.60	.00	7.50	3.30
0109	.00	110.15	6.70	.00	1.00	2.30
0110	.00	282.13	75.12	1.40	38.00	114.00
0111	1.50	135.60	22.55	.00	.00	.00
0112	.00	51.60	1.10	.00	20.70	3.30
0114	.00	292.40	42.10	.00	102.70	24.00
0115	.00	96.80	23.10	.00	2.30	31.00
0116	.80	161.17	36.62	.00	93.40	74.00
0117	1.40	449.93	64.50	.00	196.90	84.90
0151	.00	.00	16.50	.00	.00	.00
0152	114.90	67.83	79.90	6.10	.00	3.00
0156	4.0	.00	491.50	.00	.00	13.60
0203	.00	15.00	.00	.00	.00	.00
0204	.00	5.50	.00	.00	.00	.00
0215	.00	29.21	.00	.00	.00	.00
0301	.00	49.10	6.50	.00	.00	.00
0303	.00	3.90	.00	.00	.00	.00
0304	.00	26.70	.00	.00	.00	.00
0305	.00	21.00	1.70	.00	5.30	.00
0306	.00	13.80	.80	.00	.00	.00
0307	.00	2.20	.00	.00	.00	.00
0308	.00	39.50	.00	.00	.00	.00
0309	.00	1.50	.00	.00	.00	.00
0310	.00	54.60	.00	.00	19.20	.00
0312	.00	56.20	4.70	.00	24.50	.00
0316	.00	44.40	.00	.00	.00	.00
0401	.00	5.40	.00	.00	.00	.00
0402	.00	17.99	4.02	.00	61.80	1.70
0403	5.00	115.61	2.72	.00	.00	.00
0406	.00	2.90	.00	.00	.00	.00
0412	.00	31.58	2.02	.00	.00	.00

USER UNIT	AVIATION ACTIVITIES	FIXED WING FIRE ACTIVITIES	OTHER ACTIVITIES	AVIATION ACTIVITIES	HELICOPTER FIRE ACTIVITIES	OTHER ACTIVITIES
0413	.00	28.98	.00	.00	.00	.00
0414	.00	4.10	.00	.00	.00	.00
0415	2.10	23.19	.00	.00	.00	.00
0460	5.60	8.80	9.00	.00	.00	.00
0462	1.60	.00	.00	.00	.00	.00
0501	.00	4.90	5.02	.00	.00	.00
0505	.00	12.60	.00	.00	.00	.00
0506	.00	6.87	.00	.00	.00	.00
0507	.00	4.00	.00	.00	.00	.00
0508	.00	7.60	5.55	.00	.00	.00
0510	.00	1.95	.00	.00	.00	.00
0511	.00	7.94	.00	.00	.00	.00
0513	.00	9.40	.00	.00	.00	.00
0514	.00	1.93	.00	.00	.00	.00
0520	.00	5.40	.00	.00	.00	.00
0601	.00	25.70	.00	.00	.00	.00
0602	.00	4.60	.00	.00	.00	.00
0604	.00	26.10	.00	.00	.00	.00
0605	.00	4.60	.00	.00	.00	.00
0606	.00	11.00	12.10	.00	.00	.00
0607	.00	6.00	.00	.00	18.20	.00
0608	.00	52.79	.00	.00	222.50	17.70
0610	.00	1.90	.00	.00	.00	.00
0611	.00	6.50	.00	.00	.00	.00
0614	.00	13.20	.00	.00	.00	.00
0616	.00	15.10	.00	.00	.00	.00
0617	.00	39.07	1.50	.00	41.60	.50
0621	.00	.00	.00	.00	.00	2.30
0627	.00	8.40	9.40	.00	.00	.00
1001	.00	4.70	.00	.00	.00	.00
1301	17.30	.00	3.00	.00	.00	.00
1302	58.90	19.90	8.30	.00	.00	.00
1382	.00	.00	2.90	.00	.00	.00
TOTAL	240.60	4518.14	1374.79	7.50	1464.60	660.90

PERSONNEL EMPLOYED ON WILDFIRE PRESUPPRESSION AND SUPPRESSION ACTIVITIES

FS-5100-8

Item	Sub-Total	Total
1. Regular appointed personnel a. Full-time fire management (20 pay periods or more) b. Part-time fire management c. Others used on presuppression sometime during year d. Others used on suppression e. Total (a + b + c + d)	143 168 299 583	1193
2. Seasonal or short-term personnel a. Regular fire control (crews, firefighters, patrol, lookouts, etc.) b. Others (BD, KV, BR, R&T, etc.) who spent some time on fire control work c. Emergency firefighters d. Total (a + b + c)	693 732 284	1709
3. Total number of casuals employed on fire suppression (Each reemployment counts as an employment)		7004
4. Number of casuals (included in Item 3) employed for first time (Ranger's estimate is adequate)	815	
5. GRAND TOTAL (1e + 2d + 3)		9906

LAND OWNERSHIP PROTECTION REPORT

(Summary of acres by states)

	INSIDE FOREST SERVICE PROTECTION BOUNDARIES							
	PROTECTED BY THE FOREST SERVICE							
	State and Private Land *(Include county and municipal land)*							
STATE	Fee Basis	Offset Basis	Reimbursement Suppression Costs Only	Without Reimbursement	Other Federal Land	National Forest Land	Total	National Forest Land Protected by Others
MONTANA	1,373,966	21,605	10,443		1,237,718	15,452,633	18,096,365	2,88,410
IDAHO	134,208	262,234			62,423	6,396,221	6,855,086	398,146
WASHINGTON						118,794	118,794	
NORTH DAKOTA						1,105,789	1,105,789	
SOUTH DAKOTA						228,627	228,627	73,182
TOTAL	1,508,174	283,839	10,443		1,300,141	23,302,064	26,404,661	3,359,738

LAND OWNERSHIP PROTECTION REPORT

(Summary of acres by states)

	INSIDE FOREST SERVICE PROTECTION BOUNDARIES							
	PROTECTED BY THE FOREST SERVICE							
	State and Private Land *(Include county and municipal land)*							
STATE	Fee Basis	Offset Basis	Reimbursement Suppression Costs Only	Without Reimbursement	Other Federal Land	National Forest Land	Total	National Forest Land Protected by Others
MONTANA								
Beaverhead	47,094				956,580	1,953,243	2,956,917	195,154
Bitterroot	127,623					1,114,373	1,241,996	
Custer			9,333			516,196	525,529	1,860,005
Deerlodge	61,297				94,278	1,047,355	1,202,930	176,174
Flathead	128		1,110			2,183,952	2,185,190	168,852
Gallatin	395,445				18,571	1,736,112	2,150,128	
Helena	96,418	21,605			71,022	976,722	1,165,767	
Idaho Panhandle						28,496	28,496	
Kootenai	187,655				242	2,195,405	2,383,302	187,866
Lewis & Clark	59,893				15,010	1,799,653	1,874,556	118,635
Lolo	398,413				82,015	1,901,126	2,381,554	181,724
Total	1,373,966	21,605	10,443		1,237,718	15,452,633	18,096,365	2,88,410
IDAHO								
Bitterroot	52					463,984	464,036	
Clearwater	67,004					1,637,847	1,704,851	176,243
Idaho Panhandle	67,152	221,903			38,151	2,124,072	2,451,278	221,903
Kootenai						50,384	50,384	
Nez Perce		40,331			24,272	2,119,934	2,184,537	
Total	134,208	262,234			62,423	6,396,221	6,855,086	398,146